

Supporting materials

Table S1 Elemental and proximate analysis of dried sludge

Proximate analysis ^{a)} (weight %)			Elemental analysis ^{a)} (weight %)				
Ash	Volatile	Fixed carbon	C	H	O ^{b)}	N	S
47.10	43.37	9.53	30.76	4.53	15.38	1.33	0.90

Notes: a) Dry basis. b) Calculated by difference

Table S2 Main compositions of kaolin and zeolite based on X-ray fluorescence spectrometer (weight %)

Samples	Component								
	SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	K ₂ O	CaO	MgO	TiO ₂	Na ₂ O	Loss on ignition
Kaolin	45.52	36.83	0.52	0.81	0.02	0.03	0.27	0.08	13.37
Zeolite	81.62	4.10	1.01	0.32	0.85	1.08	0.01	3.26	6.74

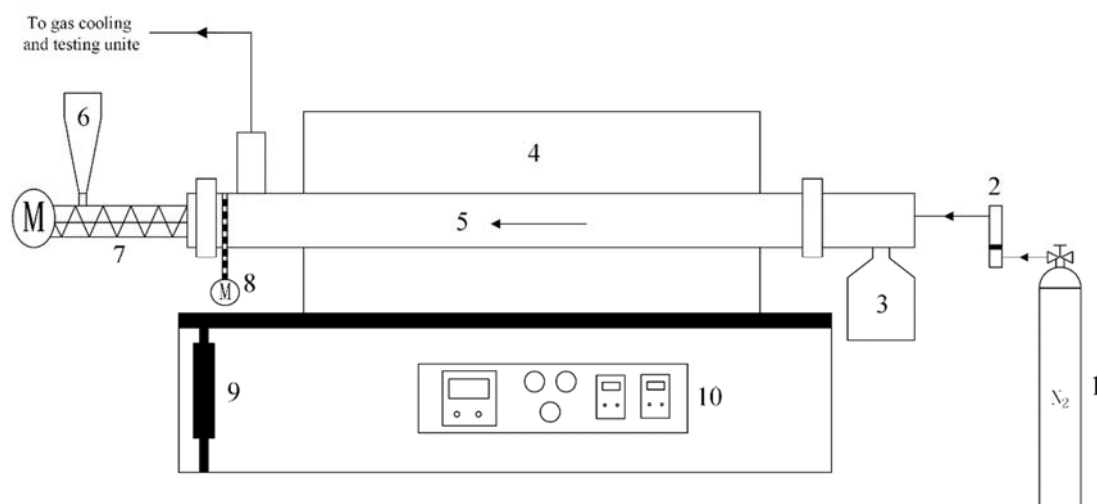


Fig. S1 Schematic diagram of the rotary kiln reactor. (1) gas cylinders, (2) volumetric flowmeter, (3) discharge bin, (4) furnace, (5) stainless-steel reactor, (6) feed bin, (7) screw feeder, (8) transmission, (9) electromotive handspike, (10) control instrument